

## REMARKS

Favorable reconsideration and withdrawal of the objections and rejections set forth in the above-mentioned Official Action in view of the foregoing amendments and the following remarks are respectfully requested.

### Drawings

The formal drawings are objected to because they do not depict the spiral blades having different inclination angles. The objection is not understood. The Examiner's attention is directed to Figure 3B of the drawings which shows a representative spiral blade having inclination angles of  $\theta_1$  and  $\theta_2$ . Since one such blade having different inclination angles is shown in the drawings, it is not believed necessary to illustrate that other blades with different inclination angles. The Examiner is requested to reconsider and withdraw the objection to the drawings.

### Title

The title has been objected to as not being descriptive. In response, a new title, which is more clearly indicative of the claimed invention, is presented herein for the Examiner's consideration and approval.

### Claims Status

Claims 4 through 11 and 15 through 23 are now pending in the application. Claims 1 through 3 and 12 through 14 have been canceled. Claims 4, 6 through 10, 15 through 19, and 20 have been amended to even more succinctly define the invention and/or to improve their form. Claims 23 and 24 have been added to accord Applicants an additional scope of protection commensurate with the disclosure. It is respectfully submitted that no new

matter has been added. Claims 4, 6, and 15 are the only independent claims pending in the application.

#### Art Rejections

Claims 1, 3 through 5, and 12 through 14 are rejected under 35 U.S.C. § 102(b) as being anticipated by Japanese Patent Document No. 9-325609 (Baba).

Claims 1 through 22 are rejected under 35 U.S.C. § 102(b) as being anticipated by Japanese Patent Document No. 10-221937 (Sato).

Claims 6, 7, 11, 15, 16, 19, and 22 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Baba in view of U.S. Patent No. 5,835,828 (Jyoroku).

The rationale underlying the foregoing art rejections is succinctly set forth in the Official Action.

#### Response to Art Rejections

The rejections are respectfully traversed.

Without conceding the propriety of the rejection, the cancellation of Claim 1 has made the rejection of that claim moot. Accordingly, further comment on that claim is not necessary.

#### Independent Claim 4

Claim 4 is rejected as being anticipated by Baba and Sato.

Amended independent Claim 4 calls for a developing apparatus that includes a developer bearing member; and a developer carrying screw placed in parallel with the developer bearing member. The developer carrying screw includes a rotary shaft and a spiral blade. The spiral blade is wound about the rotary shaft in a spiral form and has a carrying surface for carrying developer. When viewing the developer carrying screw in

cross-section in a longitudinal direction of the developer carrying screw, an inclination angle with respect to a rotation center line of the rotary shaft of the carrying surface on one side of the carrying surface is smaller than an inclination angle with respect to a rotation center line of a surface at an opposite side of the carrying surface.

According to the claimed invention, a force applied to the developer in a vertical direction to the rotary shaft increases and the developer is carried in an approximately horizontal state in the carrying direction. Therefore, evenness of the supply of the developer to a developer sleeve is more likely to result. See page 13, line 18 to page 14, line 27, and page 16, line 19 to page 17, line 1 of the specification.

In contrast, Baba discloses only a first stirring shaft 2 and second stirring shaft 3, wherein a spiral blade is wound about each shaft at a lead angle  $\theta$ . See Figure 5 and the Abstract of Baba.

It is respectfully submitted that Baba does not anticipate amended Claim 4.

The Examiner asserts that Sato discloses that an inclination angle of a developer carrying surface is smaller than the inclination angle of the surface opposite to the developer carrying surface. However, Sato states that the inclination angle  $\theta_1$  of the developer carrying surface a1 (a side facing in a developer carrying direction of a spiral blade part in a developer carrying direction is set larger is than the inclination angle  $\theta_2$  of the surface a2 opposite thereto (a side facing in a direction opposite to the developer carrying direction). See Figures 5(a) through 5(c) and the Abstract of Sato.

It is respectfully submitted that Sato does not anticipate amended Claim 4.

#### Independent Claims 6 and 15

Claims 6 and 15 are rejected as being anticipated by Sato.

Amended independent Claim 6 calls for a developing apparatus that includes a developer bearing member; and a developer carrying screw placed in parallel with the developer bearing member. The developer carrying screw includes a rotary shaft and a spiral blade. The spiral blade is wound about the rotary shaft in a spiral form and has a carrying surface for carrying a developer. When viewing the developer carrying screw in cross-section in a longitudinal direction of the developer carrying screw, the carrying surface has surface portions having a plurality of different inclination angles with respect to a rotation center line of the rotary shaft.

It is respectfully submitted that Sato does not disclose a developer carrying screw wherein a carrying surface has surface portions having a plurality of different angles with respect to a rotation center line of a rotary shaft as featured in amended Claim 6.

Accordingly, Sato does not anticipate amended Claim 6.

Amended independent Claim 15 calls for a developing apparatus that includes a developer bearing member; and a developer carrying screw placed in parallel with the developer bearing member. The developer carrying screw includes a rotary shaft and a plurality of spiral blades. Each of the plurality of blades is wound about the rotary shaft in a spiral form and has a carrying surface for carrying a developer. When viewing each of the plurality of developer carrying screws in cross-section in a longitudinal direction of each of the plurality of developer carrying screws, an inclination angle of a carrying surface of each one of the plurality of blades with respect to a rotation center line of the rotary shaft is different from the inclination angles of the carrying surfaces of the other blades.

It is respectfully submitted that Sato does not disclose an inclination angle of a carrying surface of each one of the plurality of blades with respect to a rotation center line

of the rotary shaft is different from the inclination angles of the carrying surfaces of the other blades as featured in amended Claim 15. Accordingly, Sato does not anticipate amended Claim 15.

Claims 6 and 15 are also rejected as being unpatentable over Baba in view of Jyoroku.

The Examiner asserts that Jyoroku discloses that a carrying screw is provided with the plurality of carrying surfaces having different angles with respect to a shaft. However, Jyoroku merely discloses separate paddles 90, 92, 94, 96, 98, and 100 having different angles with respect to shaft 60. See column 6, lines 36 through 40 and Figure 5.

It is respectfully submitted that Jyoroku does not remedy the above-noted deficiencies of Baba. More specifically, Jyoroku does not disclose a carrying surface having different portions as recited in amended Claim 6; and Jyoroku does not describe a plurality of screws as recited in amended Claim 15.

It is also respectfully submitted that Baba and Jyoroku do not disclose or suggest the above-noted features as recited in amended Claims 6 and 15 whether taken individually or in combination.

It is also respectfully submitted that the combination rejection is not well founded. The Examiner has provided a *rationalization* for combining the teachings of the cited art based on the benefits of doing so. A combination rejection is proper only when there is some suggestion or motivation in the cited art *per se* to cause one having ordinary skill in the art to combine the teachings of the cited art. There is nothing in the cited art which supports the position that it can be combined in the manner suggested. Even if the art could be so combined, the mere fact that the art can be combined is not sufficient if there is

no suggestions in the art that such a combination is desirable. For example, see ACS Hospital Systems, Inc. v. Montefiore Hospital, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984).

In view of the foregoing, it is respectfully submitted that independent Claims 4, 6, and 15 are allowable over the cited art whether taken individually or in combination.

#### Dependent Claims


Claims 5, 7 through 11, and 16 through 24 depend either directly or indirectly from one of Claims 4, 6, and 15 and are allowable by virtue of their dependency and in their own right for further defining Applicants' invention. Individual consideration of the dependent claims is respectfully requested.

#### Closing Comments

It is respectfully submitted that the claims on file are allowable over the art of record and that the application is in condition for allowance. Favorable reconsideration and early passage to issue of the present application are earnestly solicited.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our New York office at the address shown below.

Respectfully submitted,

  
William M. Wannisky  
Attorney for Applicants  
Registration No. 28,373

FITZPATRICK, CELLA, HARPER & SCINTO  
30 Rockefeller Plaza  
New York, New York 10112-3801  
Facsimile: (212) 218-2200  
WMW:tas